

September 1990

## FACT SHEET

Environmental investigation at the  
former gas manufacturing plant  
5th and Hill Streets  
Champaign, Illinois

### Introduction

Illinois Power Co. manufactured gas from coal for heating and lighting at 5th and Hill Streets in Champaign from sometime before 1897 to the mid-1930s. After that, gas was produced only to meet peak demand or for occasional test runs until 1955.

Illinois Power tore down all but one of the above ground structures and sold the site to American Legion Post #559 in 1979. The company has bought back the property, and the Legion should be moving early next year.

The gas was produced by heating coal and reacting it with steam. The gas was then processed to remove tar and other chemical compounds before it was piped to homes and businesses. The tar was often sold to be made into useful products, such as roofing and road tar. But, in keeping with the practices of those days, some of the tar and other production wastes were left at the site, both above and below ground.

### Chemicals of Concern

Coal tar contains chemicals known as polynuclear aromatic hydrocarbons, or PAH. These chemical compounds are created by combustion activities, both natural and man-made, such as running a gasoline engine or burning wood or coal.

Some of the PAH compounds have caused cancer in test animals and are suspected of causing cancer in people who had contact with them over a long period of time at their

job. For this reason, the federal government has set limits on the amount of PAH workers can be exposed to every day.

Benzene is another chemical of concern that may be found in wastes at gas manufacturing sites. Benzene evaporates easily in the open air, but may remain underground for a long period of time. It has been proven to cause cancer in people exposed on the job. Benzene is found in gasoline and is used to produce medicine, plastics and rubber products.

In order to judge what the health risks might be from hazardous substances, information must be gathered about how people might come into contact with them, as well as data on how much contamination is present at a site. Illinois Power has been studying the Champaign site and others it is responsible for since 1986.

### The Environmental Study

The company first became aware that old gas manufacturing sites might be a problem for health and the environment when a national study of these sites was conducted for the U.S. Environmental Protection Agency in 1984. Along with other utilities in the state, Illinois Power staff searched old records, talked to retired employees and surveyed sites where coal gas was manufactured. By the end of 1986, the company identified 24 sites that needed more study.

Illinois Power and its technical consulting firm, John Mathes & Associates, Inc., are

currently doing more detailed studies at Cairo and Champaign. Both sites were no longer owned by the company and nearby residents had free access to the property, which meant there was a potential for accidental contact with the wastes. All work is being done in cooperation with the Illinois Environmental Protection Agency.

### **Phase I 1986-90**

From information collected about the 5th Street site in 1986, Illinois Power concluded there was no immediate threat to people's health and started negotiations to buy back the property and assist Legion Post #559 in finding a new location.

The judgment that there was no immediate threat was based on data that indicated that most of the coal tar was underground at the site with only weathered tar on the surface. Gas manufacturing plant wastes may contaminate groundwater, but tests of Champaign's water supply wells have never shown any of the chemicals found at old gas sites. Air monitoring on the property did not indicate any problem with air quality. However, air monitoring could not be conducted in the Legion hall because cigarette smoke contains some of the same chemical compounds that are found in coal tar.

In February of this year, workers grading the Legion parking lot uncovered soil mixed with coal tar and oil. Illinois Power brought in clean fill dirt as cover and constructed additional fencing to secure the contaminated areas of the property. In March and again in May, preliminary surveys were conducted in the area of the former plant. Workers used probes to collect soil and groundwater samples to check for organic gases, or vapors, associated with gas manufacturing residues.

### **Results Indicate Need For More Study**

The studies conducted up to now indicate that residues lie under the surface in the northern 80% of the property. An in-ground gas holder contains approximately seven feet of water on top of four to seven feet of coal tar.

The soil at the southern boundary is contaminated with diesel fuel, apparently from fuel tanks that were located in the southern portion of the property.

Next to the property, the gas plant residues lie 10 feet or more below the surface. They appear to extend primarily to the north under the active railroad tracks and secondarily, to the west and east, as shown on the map. There does not appear to have been movement to the south. It is important to note it has taken more than 40 years for the residues to have moved this far.

The methods used so far provide only a general picture of conditions at the site. For example, preliminary sampling does not indicate how much coal tar and other residues are present or their exact location.

### **Phase II 1990-91**

This fall, Illinois Power and John Mathes & Associates will begin the second phase of the investigation that will provide more detailed information that is needed before any decisions can be made about how to clean up the site.

Workers will use drill rigs to install groundwater monitoring wells and augers to collect many more soil samples. They are required to wear protective clothing, and a health and safety officer from Mathes & Associates will be present during all working hours. Sample collection will be done first in the area surrounding the fenced-in property and continue inside the fence once the American Legion has moved to its new quarters early in 1991. Neighbors of the site and the community will be notified before work begins in the fall.

### **The Next Phase**

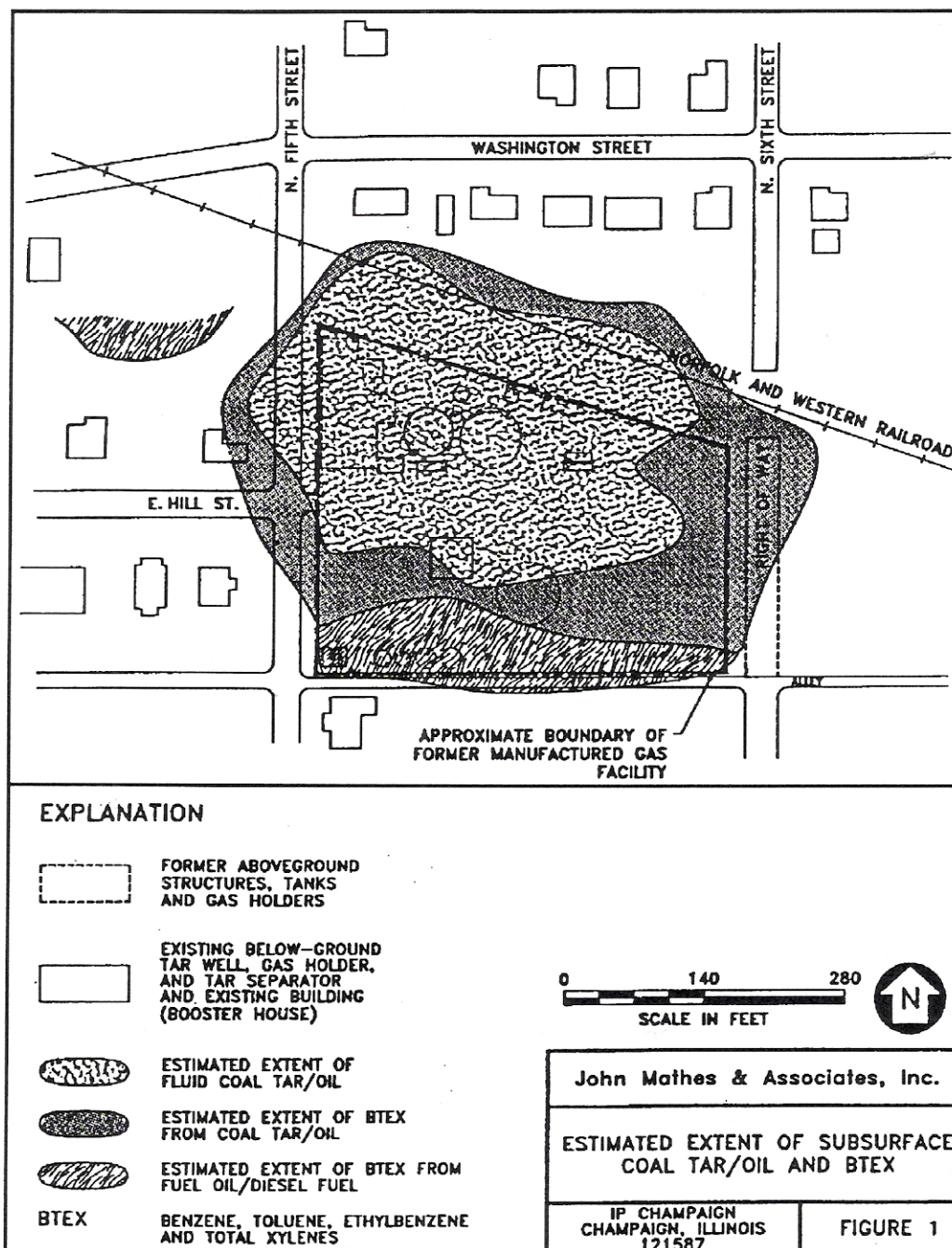
The field work at the site and the analysis of the data collected in Phase II are expected to take several months. Illinois Power Co. will issue a report of the results late in 1991 or early 1992. The information will be used in the next phase, called a feasibility study, in which possible methods to clean up the residues at the site will be examined.



## For More Information

Illinois Power Co. has placed copies of the Phase I reports and additional material about the investigation at the former gas manufacturing plant at 5th and Hill Streets in two Champaign libraries: the Douglass Branch Library, 310 E. Bradley Avenue and the main library, 505 S. Randolph St. The libraries also have a videotape produced by Illinois Power about coal gas operations and possible impacts from the residues that were left behind when production ended.

If you would like more information, please call Illinois Power's community relations consultant for this project, Gretchen Monti of Monti Communications, Inc. Her toll free telephone number is 1-800-232-3108.



Note: BTEX are lightweight chemical compounds found in coal tar and fuel oil that move easily through soils. The isolated patch of BTEX west of 5th Street is not presently thought to be associated with the former gas manufacturing plant.